

Product datasheet for **RG231298**

Nicotinic Acetylcholine Receptor alpha 7 (CHRNA7) (NM_001190455) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Nicotinic Acetylcholine Receptor alpha 7 (CHRNA7) (NM_001190455) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Nicotinic Acetylcholine Receptor alpha 7
Synonyms:	CHRNA7-2; NACHRA7
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG231298 representing NM_001190455
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGCGCTGCTCGCCGGGAGGCGTCTGGCTGGCGCTGGCCGCTCGCTCCTGCACGGTAAAGCCACTGCCT
 CCCGCCCCCTCCACTCCTCCGTGGGATCCCGGGACATCCCGGGCGCCTCTGTGCGCCCCGCGCTGGGCC
 AGTGTCCCTGCAAGGCGAGTTCAGAGGAAGCTTTACAAGGAGCTGGTCAAGAACTACAATCCCTTGGAG
 AGGCCCGTGGCCAATGACTCGCAACCACTACCGTCTACTTCTCCCTGAGCCTCCTGCAGATCATGGACG
 TGGATGAGAAGAACCAAGTTTTAAACCACCAACATTTGGCTGCAAATGTCTTGGACAGATCACTATTTACA
 GTGGAATGTGTCAGAATATCCAGGGTGAAGACTGTTTCGTTTCCAGATGGCCAGATTTGGAAACCAGAC
 ATCTTCTCTATAACAGTGTGATGAGCGCTTTGACGCCACATCCACACTAACGTGTTGGTGAATTCTT
 CTGGGCATTGCCAGTACCTGCCAGGCATATCAAGAGTTCCTGCTACATCGATGTACGCTGGTTTCC
 CTTTGATGTGCAGCACTGCAAATGAAGTTTGGTCTGGTCTTACGGAGGCTGGTCTTGGATCTGCAG
 ATGCAGGAGGCAGATATCAGTGGCTATATCCCCAATGGAGAATGGGACCTAGTGGGAATCCCCGGCAAGA
 GGAGTAAAGGTTCTATGAGTGTGCAAAGAGCCCTACCCGATGTCACCTTACAGTGACCATGGCCCG
 CAGGACGCTCTACTATGGCCTCAACCTGCTGATCCCCTGTGTGCTCATCTCCGCCCTCGCCCTGCTGGT
 TTCCTGCTTCTCGAGATTCGGGGAGAAGATTTCCCTGGGGATAACAGTCTTACTCTCTTACCCTCT
 TCATGCTGCTCGTGGCTGAGATCATGCCCGCAACATCCGATTCGGTACCATTGATAGCCCACTTTCGC
 CAGCACCATGATCATCGTGGCCTCTCGGTGGTGGTACAGTATCGTGTGAGTACCACCACCACGAC
 CCCGACGGGGCAAGATGCCAAGTGGACCAGAGTCATCTTCTGAAGTGGTGGCGGTGTTCTTCCGAA
 TGAAGAGGCCCGGGGAGGACAAGGTGCGCCCGCCTGCCAGCACAGCAGCGGCGCTGCAGCTGGCCAG
 TGTGGAGATGAGCGCCGTGGCGCCGCGCCGCAAGCAACGGGAACCTGCTGTACATCGGCTTCCGCGGC
 CTGGACGCGTGCAGTGTGTCGCCACCCCGACTCTGGGTAGTGTGTGGCCGATGGCCTGCTCCCCCA
 CGCACGATGAGCACCTCCTGCACGGCGGCAACCCCCGAGGGGGACCCGGACTTGGCCAAGATCCTGGA
 GGAGGTCCGCTACATTGCCAACCCTTCCGCTGCCAGGACGAAAGCGAGGCGGTCTGCAGCGAGTGAAG
 TTCGCCGCTGTGTGGTGGACCGCTGTGCCTCATGGCCTTCTCGGTCTTACCATCATCTGCACCATCG
 GCATCCTGATGTCGGCTCCCAACTTCGTGGAGGCCGTGTCCAAAGACTTTGCG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG231298 representing NM_001190455
 Red=Cloning site Green=Tags(s)

MRCSPGGVWLAASLLHGKATASPPSTPPWDPGHIPGASVRPAPGPVSLQGEFQRKLYKELVKNYNPLE
 RPYVANDSQPLTVYFSLSLQIMDVDEKNQVLTNNIWLQMSWDHYLQWNVSEYPGVKTVRFDPDQIWKPD
 ILLYNSADERFDATFHTNVLVNSSGHCQYLPPIFKSSCYIDVRFPPFDVQHCKLKFWSWSYGGWSDLQ
 MQEADISGYIPNGEWDLVGIPGKRSEFYECCKEYPYDVTFTVTMRRRTLYYGLNLLIPCVLISALALLV
 FLLPADSGEKISLGITVLLSLTVFMLLVAEIMPATSDSVPLIAQYFASTMIIVGLSVVVTVIVLQYHHHD
 PDGGKMPKWTRVILLNCAWFLRMKRPGEDKVRPACQHKQRRCSLASVEMSAVAPPPASNGNLLYIGFRG
 LDGVHCVPTPDGSGVVCGRMACSPTHDEHLLHGGQPPGDPDLAKILEEVRYIANRFRQDESEAVCSEWK
 FAACVVDRLCLMAFSVFTIICTIGILMSAPNFVEAVSKDFA

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_001190455

ORF Size: 1593 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001190455.3](#)

RefSeq Size: 3428 bp

RefSeq ORF: 1596 bp

Locus ID: 1139

UniProt ID: [P36544](#)

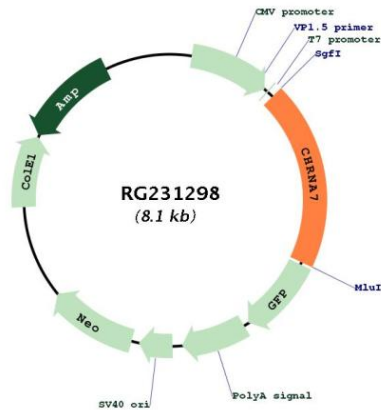
Cytogenetics: 15q13.3

Protein Families: Druggable Genome, Ion Channels: Cys-loop Receptors, Transmembrane

Protein Pathways: Calcium signaling pathway

Gene Summary: The nicotinic acetylcholine receptors (nAChRs) are members of a superfamily of ligand-gated ion channels that mediate fast signal transmission at synapses. The nAChRs are thought to be hetero-pentamers composed of homologous subunits. The proposed structure for each subunit is a conserved N-terminal extracellular domain followed by three conserved transmembrane domains, a variable cytoplasmic loop, a fourth conserved transmembrane domain, and a short C-terminal extracellular region. The protein encoded by this gene forms a homo-oligomeric channel, displays marked permeability to calcium ions and is a major component of brain nicotinic receptors that are blocked by, and highly sensitive to, alpha-bungarotoxin. Once this receptor binds acetylcholine, it undergoes an extensive change in conformation that affects all subunits and leads to opening of an ion-conducting channel across the plasma membrane. This gene is located in a region identified as a major susceptibility locus for juvenile myoclonic epilepsy and a chromosomal location involved in the genetic transmission of schizophrenia. An evolutionarily recent partial duplication event in this region results in a hybrid containing sequence from this gene and a novel FAM7A gene. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Feb 2012]

Product images:



Circular map for RG231298